

**REMARKS**

This Application has been carefully reviewed in light of the Final Office Action mailed February 22, 2006 ("Office Action"). To clarify various aspects of inventive subject matter, Applicant amends Claims 1, 32, 38, 43, 49, 58, 64, 67, 70, and 71. To advance prosecution of this application, Applicant has responded to each notation by the Examiner. Applicant submits that all of the pending claims are allowable over the cited references. Applicant respectfully requests reconsideration, further examination, and favorable action in this case.

**Claim Rejections – 35 U.S.C. §112**

The Examiner rejects Claims 38-42, 64-70, 101, and 110-113 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended Claims 38, 64, 67, and 70. Applicant believes these amendments do not narrow the scope of the claims, but address the Examiner's rejections under §112. Applicant respectfully requests reconsideration and favorable action in this case.

**Claim Rejections – 35 U.S.C. §102**

The Examiner rejects Claims 1-4, 17, 23-25, 27-28, 32-34, 43, 49-50, 53, 55-56, 71, 73-74, 85, 89, 92-93, 96-99, 102-103, 105-106, 108, 114, and 116 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,005,167 by *Arthurs '167*. Applicant respectfully traverses these rejections for the reasons discussed below.

Applicant provides a reminder that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987); M.P.E.P. § 2131. In addition, "[t]he elements *must* be arranged as required by the claim." *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 U.S.P.Q. 2d 1566 (Fed. Cir. 1990); M.P.E.P. § 2131 (emphasis added).

Among other features, amended independent Claim 1 recites, in part, "one or more optical transmitters each associated with one of the one or more line cards and each operable

to generate at a specified wavelength an optical signal comprising at least a portion of the at least one packet received by the line card associated with that optical transmitter. In addition, amended Claim 1 recites, in part, that “the optical signal further comprising at least a portion of the control information of the control signal generated by the control circuitry of the line card associated with that optical transmitter. Moreover, Claim 1 recites “a star communicating fabric operable to receive the optical signals from the one or more optical transmitters and to communicate to each of the plurality of destination elements a substantially similar set of at least some of the optical signals. Claim 1 also recites that “the at least a portion of the control information of the optical signal is communicated to each of the plurality of destination elements through the star communicating fabric in a same direction as the optical signals.”

*Arthurs '167* fails to teach or suggest a number of elements of amended Claim 1. For example, nowhere does *Arthurs '167* contemplate an optical signal that comprises at least a portion of a packet received by the line card and control information of a control signal generated by control circuitry. Moreover, *Arthurs '167* fails to teach or suggest that such control information is communicated to each of the plurality of destination elements through the star communicating fabric in a same direction as the optical signal. To the extent that *Arthurs '167* discusses communicating a packet or control information, this discussion is limited to communicating control information separate from that packet. See e.g., *Abstract* (“The inventive switch utilizes two internal networks, an optical network for transmission and an electronic network for control.”); see also Figure 1 (Optical transmission network 20 and electronic control network 30); Column 2, Lines 40-46. Indeed, *Arthurs '167* teaches away from communicating control information to a destination element through the star communicating fabric in a same direction as the optical signals by its requirement of two separate and distinct internal networks. Consequently, *Arthurs '167* fails to teach or suggest that the optical signal comprises “at least a portion of the control information of the control signal generated by the control circuitry of the line card associated with that optical transmitter” and that “the at least a portion of the control information of the optical signal is communicated to each of the plurality of destination elements through the star communicating fabric in a same direction as the optical signals.”

Applicant submits that amended independent Claim 1 is patentable over *Arthurs '167* for at least the reasons discussed above. Thus, Applicant respectfully requests withdrawal of the rejection and full allowance of amended Claim 1 and all claims depending therefrom.

Applicant submits that amended independent Claims 32, 43, 49, and 71 are patentable over *Arthurs '167* for at least the reasons discussed above. Thus, Applicant respectfully requests withdrawal of the rejection and full allowance of amended Claims 32, 43, 49, and 71, and all claims depending therefrom.

**Rejections under – 35 U.S.C. §103**

The Examiner rejects Claims 15, 38-41, 44-45, 47, 51, 64, 67-70, 76, 90-91, 101, 110-111, and 113 under 35 U.S.C. § 103(a) as being unpatentable over *Arthurs '167*. The Examiner rejects Claims 29, 57-62, and 95 under 35 U.S.C. § 103(a) as being unpatentable over *Arthurs '167* in view of U.S. Patent 4,953,935 by Suchoski Jr. et al. ("*Suchoski*") and U.S. Patent 5,140,655 by Bergmann ("*Bergmann*"). The Examiner rejects Claim 63 under 35 U.S.C. § 103(a) as being unpatentable over *Arthurs '167* in view of *Suchoski* and *Bergmann* and in further view of *Arthurs '681*. Claim 65 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Arthurs '167* in view of *Arthurs '681*. Claims 16, 48, 52, and 77 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Arthurs '167* in view of U.S. Pat. Pub. No. 2002/0085543 by O'Connor ("*O'Connor*"). Claims 26, 54, 94, 100, 107, 109, 112, and 115 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Arthurs '167* in view of *Suchoski*. Claims 30, 31, 37, 42, 46, 66, and 75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Arthurs '167* in view of U.S. Patent 5,631,758 by Knox et al. ("*Knox*"). Applicant respectfully traverses these claim rejections for the reasons discussed below.

**A. The Examiner's Purported Official Notice**

At the outset, Applicant traverses the Examiner's apparent reliance on common knowledge or his personal knowledge in rejecting several claim limitations as being either obvious or considered known. *Office Action at 10-19*. For example, the Examiner states that "it is common knowledge in the art to filter out noise and other undesired frequencies prior to converting an optical signal into an electrical signal. Examiner takes official notice that this is well known and widely done throughout the art. It would have been obvious to a skilled

artisan at the time of the invention to include a filter on link 16 (of fig. 8) prior to O/E conversion in order to filter out any detrimental or undesired wavelengths, so as to improve transmission quality and to increase the signal-to-noise ratio of the incoming signals.” *Office Action at 10*. Applicant respectfully disagrees with the all of the Examiner’s purported Official Notices.

While in limited circumstances an examiner may take official notice of facts not in the record or rely on "common knowledge" in making a rejection, "such rejections should be judiciously applied." *See* M.P.E.P. § 2144.03. It is not appropriate for an examiner to take official notice of facts without citing a prior art reference "where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art." *Id.* (citing *In re Ahlert*, 165 U.S.P.Q. 418, 420-21 (C.C.P.A. 1970)). To the extent that the Examiner maintains this rejection based on "Official Notice," "well-known art," "common knowledge," or other information within the Examiner's personal knowledge, Applicant respectfully requests that the Examiner cite a reference as documentary evidence in support of this position or provide an affidavit in accordance with M.P.E.P. § 2144.03 and 37 C.F.R. § 1.107.

**B. The Proposed Combinations Fail to Disclose, Teach, or Suggest Each and Every Limitation Recited in the Independent Claims**

Applicant provides a reminder that to defeat a patent under 35 U.S.C. § 103, “the prior art reference must teach, disclose, or suggest all the claim limitations.” *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991); M.P.E.P. § 706.02(j). Applicant respectfully submit that none of the cited references, taken alone or in combination, teach or suggest, either expressly or inherently, a number of elements of the independent Claims.

*Arthurs '167*, whether considered alone or in combination with the Examiner’s Common Knowledge or with *Suchoski* and/or *Bergmann*, fails to disclose, teach, or suggest at least the following limitations recited in Claim 38. Among other features, Claim 38 recites, in part, “a star communicating fabric operable to receive a plurality of optical signals from the optical transmitters and to communicate substantially similar sets of optical signals to

each of a plurality of filters, wherein each of the optical signals comprise at least a portion of at least one packet received by one of the plurality of first line cards.” In addition, Claim 38, recites in part, that “the first plurality of line cards further comprise a control circuitry operable to generate a control signal comprising control information” and that “the optical transmitters associated with the first plurality of line cards communicate the control information of the control signal as at least a part of the optical signal to the second plurality of line cards.” Moreover, Claim 38 recites that “the at least a portion of the control information of the optical signal is communicated to each of the second plurality of line cards through the star communicating fabric in a same direction as the optical signals.”

As discussed above, nowhere does *Arthurs '167* contemplate an optical signal that comprises at least a portion of a packet received by a first line card and control information of a control signal generated by control circuitry. Moreover, *Arthurs '167* fails to teach or suggest that such control information is communicated to each of the plurality of destination elements through the star communicating fabric in a same direction as the optical signal. Consequently, *Arthurs '167* fails to teach or suggest amended Claim 38.

In addition, *Suchoski* fails to disclose, teach, or suggest an optical signal that comprises at least a portion of a packet received by a line card and control information of a control signal generated by control circuitry. Moreover, *Suchoski* fails to teach or suggest that such control information is communicated to each of the plurality of destination elements through the star communicating fabric in a same direction as the optical signal. Consequently, *Suchoski* fails to teach or suggest amended Claim 38.

Finally, *Bergmann* fails to disclose, teach, or suggest an optical signal that comprises at least a portion of a packet received by a line card and control information of a control signal generated by control circuitry. Moreover, *Bergmann* fails to teach or suggest that such control information is communicated to each of the plurality of destination elements through the star communicating fabric in a same direction as the optical signal. Consequently, *Bergmann* fails to teach or suggest amended Claim 38.

For at least these reasons, Applicant respectfully submits that *Arthurs '167*, whether considered alone or in combination with *Suchoski*, and/or *Bergmann*, fails to disclose, teach, or suggest at least the following limitations recited in Claim 38. For at least certain analogous reasons, Applicant respectfully submits that *Arthurs '167*, whether considered alone or in combination with *Suchoski*, and/or *Bergmann*, fails to disclose, teach, or suggest each and every limitation recited in independent Claims 58 and 64, and the claims depending therefrom.

### **C. The Proposed Combinations are Improper**

The rejection of Applicants' claims is also improper because the Examiner has not shown the required teaching, suggestion, or motivation in *Arthurs '167*, *Suchoski*, *Bergmann*, or in the knowledge generally available to those of ordinary skill in the art at the time of the invention to combine or modify the *Arthurs '167*, *Suchoski*, and/or *Bergmann* in the manner the Examiner proposes. The rejected claims are allowable for at least this additional reason.

#### **1. The Obviousness Standard**

The question raised under 35 U.S.C. § 103 is whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art at the time of the invention. Accordingly, even if all elements of a claim are disclosed in various prior art references, which is certainly not the case here as discussed above, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill at the time of the invention would have been prompted to modify the teachings of a reference or combine the teachings of multiple references to arrive at the claimed invention. It is clear based at least on the many distinctions discussed above that the proposed *Arthurs '167*, Examiner's Common Knowledge, *Suchoski*, and/or *Bergmann* combination does not, taken as a whole, suggest the claimed invention, taken as a whole. Respectfully, it appears to Applicants that the Examiner has merely pieced together disjointed portions of references, with the benefit of hindsight using Applicants' claims as a blueprint, in an attempt to reconstruct Applicants' claims.

The governing Federal Circuit case law makes this strict legal standard clear.<sup>1</sup> According to the Federal Circuit, “a showing of a suggestion, teaching, or motivation to combine or modify prior art references is an essential component of an obviousness holding.” *In re Sang-Su Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000)). “Evidence of a suggestion, teaching, or motivation . . . may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved.” *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). However, the “range of sources available . . . does not diminish the requirement for actual evidence.” *Id.* ***Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.”*** *In re Mills*, 916 F.2d at 682, 16 U.S.P.Q.2d at 1432 (emphasis added). *See also In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (***holding a prima facie case of obviousness not made where the combination of the references taught every element of the claimed invention but did not provide a motivation to combine***); *In Re Jones*, 958 F.2d 347, 351, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992) (“Conspicuously missing from this record is any evidence, other than the PTO’s speculation (if that can be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modification of the prior art salts necessary to arrive at” the claimed invention.). Even a determination that it would have been obvious to one of ordinary skill in the art at the time of the invention to try the proposed modification or combination is not sufficient to establish a *prima facie* case of obviousness. *See In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988).

In addition, the M.P.E.P. and the Federal Circuit repeatedly warn against using an applicant's disclosure as a blueprint to reconstruct the claimed invention. For example, the M.P.E.P. states, ***“The tendency to resort to ‘hindsight’ based upon applicant’s disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.”*** M.P.E.P. § 2142 (emphasis added). The governing Federal Circuit cases are equally clear. “A critical step in analyzing the

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<sup>1</sup> Note M.P.E.P. 2145 X.C. (“The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references.”).

patentability of claims pursuant to [35 U.S.C. § 103] is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one ‘to fall victim to the insidious effect of a hindsight syndrome *wherein that which only the invention taught is used against its teacher.*’” *In re Kotzab*, 217 F.3d 1365, 1369, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000) (citations omitted; emphasis added). In *In re Kotzab*, the court noted that to prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. *See id.* *See also, e.g., Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988). Similarly, in *In re Dembiczak*, the Federal Circuit reversed a finding of obviousness by the Board, *explaining that the required evidence of such a teaching, suggestion, or motivation is essential to avoid impermissible hindsight reconstruction of an applicant’s invention:*

Our case law makes clear that the best defense against the subtle but powerful attraction of hind-sight obviousness analysis is *rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references*. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.

175 F.3d at 999, 50 U.S.P.Q.2d at 1617 (emphasis added) (citations omitted; emphasis added).

## 2. Argument

According to the Examiner, it would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of *Arthurs ‘167* with the Examiner’s Common Knowledge or with *Suchoski* and *Bergmann* because some proposed advantages. *See e.g., Office Action* at 10-19. For example, the Examiner provides “It would have been obvious to a skilled artisan at the time of the invention to include a filter on link 16 (of fig. 8) prior to O/E conversion in order to filter out any detrimental or undesired wavelengths, so as to improve transmission quality and to increase the signal-to-noise ratio of the incoming signals.” *Office Action* at 10. The Examiner provides no support in either the



*Arthurs '167* reference or in knowledge that is supposedly generally available to those of ordinary skill in the art at the time of the invention for this assertion. *Id.* Applicant respectfully submits that the Examiner's assertion that it would have been obvious to modify the teachings of *Arthurs '167* with the knowledge that is supposedly generally available to those of ordinary skill in the art at the time of the invention to purportedly arrive at Applicant's invention is entirely insufficient to support a *prima facie* case of obviousness under 35 U.S.C. § 103(a) under the M.P.E.P. and the governing Federal Circuit case law. Consequently, the Examiner has not demonstrated the requisite teaching, suggestion, or motivation in either of the *Arthurs '167* reference or in the knowledge that is supposedly generally available to one of ordinary skill in the art at the time of Applicant's invention to combine or modify these references in the manner the Examiner proposes.

It appears that the Examiner is merely proposing alleged advantages of modifying *Arthurs '167* with the Examiner's Common Knowledge or with the teachings of *Suchoski* and *Bergmann* (advantages which Applicant does not admit could even be achieved by combining these references in the manner the Examiner proposes). While the Examiner has cited portions of *Arthurs '167*, *Suchoski* and *Bergmann* the Examiner has not pointed to any portions of the cited references or to knowledge supposedly generally available to those of ordinary skill in the art at the time of the invention that would teach, suggest, or motivate one of ordinary skill in the art at the time of invention to modify the system disclosed in *Arthurs '167* as suggested by the Examiner. In other words, the alleged advantage of the system described by the Examiner does not provide an explanation as to: (1) why it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention (***without using Applicants' claims as a guide***) to modify the particular techniques disclosed in *Arthurs '167* as suggested by the Examiner; (2) how one of ordinary skill in the art at the time of Applicants' invention would have actually done so; and (3) how doing so would purportedly meet the limitations of Claims 38, 58, and 64. Indeed, if it were sufficient for Examiners to merely point to a purported advantage of one reference and conclude that it would have been obvious to combine or modify that reference with other references simply based on that advantage (which, as should be evident from the case law discussed above, it certainly is not), then virtually any two references would be combinable just based on the fact the one reference states an advantage of its system. Of course, as the Federal Circuit has made clear and as discussed above, that is not the law.

It certainly would not have been obvious to one of ordinary skill in the art at the time of invention *to even attempt* to, let alone *to actually*, modify or combine the apparatus disclosed in *Arthurs '167* with the Examiner's *Official Notice* or with the teachings of *Suchoski* and *Bergmann* in the manner proposed by the Examiner.<sup>2</sup> Applicant respectfully submits that the Examiner's attempt to modify or combine *Arthurs '167* with the Examiner's *Official Notice* or with the teachings of *Suchoski* and *Bergmann* appears to constitute the type of impermissible hindsight reconstruction of Applicant's claims, using Applicant's claims as a blueprint, that is specifically prohibited by the M.P.E.P. and governing Federal Circuit cases.

Accordingly, since the prior art fails to provide the required teaching, suggestion, or motivation to modify *Arthurs '167* in the manner the Examiner proposes, Applicant respectfully submits that the Examiner's conclusions set forth in the Office Action do not meet the requirements set forth in the M.P.E.P. and the governing Federal Circuit case law for demonstrating a *prima facie* case of obviousness. Applicant respectfully submits that the rejection must therefore be withdrawn.

For at least these additional reasons, Applicant respectfully submits that the proposed combination of *Arthurs '167* with the Examiner's Common Knowledge or with *Suchoski* and *Bergmann* does not support a *prima facie* case of obviousness.

#### **D. Conclusion**

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 38 and its dependent claims. For at least certain analogous reasons, Applicants respectfully request reconsideration and allowance of independent Claims 58 and 64, and their dependent claims.

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<sup>2</sup> If "common knowledge" or "well known" art is relied upon by the Examiner to combine or modify the references, Applicant respectfully requests that the Examiner provide a reference pursuant to M.P.E.P. § 2144.03 to support such an argument. If the Examiner relies on personal knowledge to supply the required motivation or suggestion to combine or modify the references, Applicant respectfully requests that the Examiner provide an affidavit supporting such facts pursuant to M.P.E.P. § 2144.03.

**No Waiver**

All of Applicant's arguments and amendments are without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the *Arthurs*, *Suchosk*, and *Bergmann* references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicant does not acquiesce to the Examiner's additional statements. The example distinctions discussed by Applicant are sufficient to overcome the anticipation rejections.

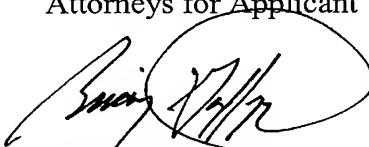
**CONCLUSION**

Applicant has made an earnest attempt to place this case in condition for allowance. Because this Amendment places all claims in condition for allowance or at least in a better condition for appeal, Applicants respectfully request that this Amendment be entered.

Although Applicant believes that no fees are due, the Commissioner is hereby authorized to charge any fee or credit any overpayment to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

If the Examiner feels that a conference would advance prosecution of this Application in any manner, Brian J. Gaffney stands willing to conduct such a telephone interview at the convenience of the Examiner. Mr. Gaffney may be reached at (214) 953-6682.

Respectfully submitted,  
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